

Vector Control Collaborative - Mentee Application

Applicant Information

Full Name:

Peter Jiang

Company:

Title:

Director

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State:

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Size

Select a size: *

Small (0-50,000) Medium (50,000-499,999) Large (500,000+)

Applicant Information

Applying Agency/Organization

Local Health Department/Agency/Organization Name: *

City of Gainesville Mosquito Control

City or County: *

City of Gainesville

State: *

Florida

Please identify a primary contact for your agency/organization:

Name: *

Peter Jiang

Title: *

Entomologist

Email: *

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Phone: *

3523938287

Background

Program Background

Provide a brief description of your vector control program. Your description should include:

- Staff
- Services Offered
- Geographic service area
- Relevant population data

Please use the space below to describe your program (250 word limit): *

The City of Gainesville Mosquito Control (GMC) has 6 full-time employees, including 1 entomologist and 5 mosquito control technicians. GMC provides service to all citizens living within the City limits, a total of approximately 65 square miles. Gainesville's estimated population exceeds 132,000, with a population density of over 2,111 people per square mile. Gainesville is known as "the swamp", not only because of the University of Florida, but also for its swampy areas in the City that breed mosquitoes year-round. Alachua County, where the City of Gainesville is seated, does not have an organized mosquito control program. Over 800 square miles within the County are without mosquito control, including Payne's Prairie, a 22,000 acre wet and dry savannah located just south of the city limits. This leads to increased mosquito migration to and breeding within the City. Gainesville is a mosquito-borne disease "hot spot" due to frequent international travelers (UF alone has more than 6,000 international students) and a humid subtropical climate. Gainesville Mosquito Control uses an Integrated Mosquito Management (IMM) philosophy when controlling adult and larval mosquito populations. GMC inspects over 350 breeding sites each month using IMM techniques to monitor, identify, and treat larval mosquito populations. GMC also conducts adult mosquito surveillance by trapping in 5 of 16 mosquito spray zones using CDC light traps. Mosquito Control investigates citizen inquiries and service requests, which begin with a site inspection of the citizen's yard, or nearby possible breeding sites. GMC has 3 ULV spray trucks used for adulticiding.

Background - Program Self-Assessment

Program Self-Assessment

NACCHO and the Centers for Disease Control and Prevention have established a framework of necessary capabilities for a vector control program based on Integrated Pest Management (IMP) and Integrated Mosquito Management (IMM) principles. The capabilities are as follows:

Core Capabilities

- Capability 1: Routine mosquito surveillance through standardized trapping and species identification;
- Capability 2: Treatment decisions using surveillance data;
- Capability 3: Larviciding, adulticiding, or both;
- Capability 4: Routine vector control activities (e.g., chemical, biological, source reduction, or environmental management);
- Capability 5: Pesticide resistance testing;

Supplemental Capabilities

- Capability 6: Licensed pesticide application;
- Capability 7: Vector control activities other than chemical control (e.g., biological source reduction or water management);
- Capability 8: Community outreach and education campaigns regarding mosquito-borne diseases, how they spread, and how to prevent infection;
- Capability 9: Regular communication with local health departments regarding surveillance and epidemiology; and
- Capability 10: Outreach (e.g., communication and/or cooperation) with nearby vector control programs.

Complete the following self-assessment to indicate your program's current capacity to meet the ten capabilities.

How often does your program conduct routine mosquito surveillance through standardized trapping and species identification? : *

- Always Usually About half of the time Rarely Never

How often does your program make vector treatment decisions using surveillance data?: *

- Always Usually About half of the time Rarely Never

Which of the following activities does your vector control program currently conduct?: *

- Adulticiding only Larviciding only Adulticiding and larviciding Neither

Do you feel like you are able to perform larviciding and/or adulticiding to the extent needed by your jurisdiction?: *

Always Usually Some of the time Rarely Never

Based on the needs of your jurisdiction, how often are you able to perform routine vector control activities (e.g. biological source reduction or water management)?: *

Always Usually Some of the time Rarely Never

Is your program able to evaluate the effectiveness of your pesticides? : *

Yes No

Are you able to meet the licensing requirements necessary to access the applicators needed for your jurisdiction? : *

Yes No

Do you feel like you are able to perform community outreach and education to the extent needed by your jurisdiction? : *

Always Usually Some of the time Rarely Never

What level of communication do you have with your local health department regarding surveillance and epidemiology?: *

Frequent communication Some communication No communication at all

How frequently do you conduct outreach (e.g. communication and/or cooperation) with nearby vector control programs?: *

Always Usually Some of the time Rarely Never

Statement of Work

Statement of Work

Based on the self-assessment and the ten vector control capabilities, identify which capabilities your vector control program will prioritize over the course of the project period and describe how these priorities align with your current jurisdictional needs. Applicants should also describe the activities they will complete during the project period to support these priorities and their related capabilities. Activities should align with Integrated Pest Management principles and best practices as defined by the American Mosquito Control Association and other leaders in the field of vector control.

Capabilities that City of Gainesville Mosquito Control (GMC) would like to prioritize are:

1) (Capability 1) Adding additional CDC light traps will allow GMC to monitor more areas and better gauge City-wide mosquito problems, as well as measure the effectiveness of daily mosquito control operations. By also adding BG sentinel trap and ovitrap programs, GMC could precisely monitor the population of vector species such as *Aedes albopictus* and *Ae. aegypti*. The ability to identify areas within the city that are "hot spots" for potential disease transmission will allow technicians to respond more effectively to disease outbreaks. For instance, 15 travel-related Zika cases were detected in town in 2016. In 2018, 3 crows and 25 sentinel chicken were reported positive to WN; 8 sentinel chickens were detected with positive EEEV and 1 with HJV.

2) (Capability 5) Currently, GMC does not have a pesticide resistance testing program and has not yet conducted any resistance testing. By adding this program, GMC will stay ahead of the game to prevent/mitigate insecticide resistant populations in the area.

3) (Capability 6) Due to the high turn-over rate that took place in the last three years, GMC desperately needs more resources to provide training for new employees in order to meet the licensing requirements. With additional training, not only could staff improve their ability to identify mosquito species correctly, they could be more effective and efficient at targeting specific species using the best treatment methods available.

4) (Capability 8) Over the last several years, GMC has been asked to participate in many presentations and job fairs at local schools. While the program has been able to participate in a limited capacity, GMC would like to expand its educational campaign in order to reach as many students as possible. Outdated presentation materials impede our ability to effectively communicate. Having a more prominent social presence will educate and remind our citizens that much of mosquito breeding and mosquito-borne disease transmission is preventable.

5) (Capability 7) Payne's Prairie, which is located just south of the City's limits, has large populations of invasive plants, primarily water lettuce and water hyacinth. These plants are specific hosts for *Mansonia titillans*, a vector of EEEV and SLEV. High water levels the past two years, which are expected to continue for several more years, have contributed to substantial increases in the invasive plant species throughout the prairie. We have begun communication with staff at Payne's Prairie State Park to begin a monitoring program for *Mansonia* spp. in hopes of demonstrating the need for an invasive plant biological control program. The majority of our resources and time this summer and fall were spent combating *Mansonia* spp. that had migrated north into the City limits.

Sustainability

Sustainability

Describe how your program will work to encourage sustainability of your vector control program and how sustainability will be integrated into your statement of work.

Sustainability activities could include:

- Establishing training materials and standard operating procedures for staff and temporary employees
- Developing MOUs with neighboring jurisdictions to share resources and equipment during an outbreak (e.g. Accessing ultra-low volume adulticide spray when needed)
- Promoting or developing a financing structure to support program activities (e.g. Identifying sustainable funding sources, working with local government to prioritize vector control)
- Developing a jurisdictional vector control and surveillance plan
- Determining ways to cost-share
- Including vector control as a line item on budgets (e.g. personnel, funds)
- Implementing tracking measures and tools to identify program impact, show value added, or conduct a cost-benefit analysis

Please use the space below to describe your planned sustainability activities (250 word limit): *

Of the 9 cities within Alachua County, only 3 have mosquito control programs, two of which have extremely limited resources. Developing relationships and MOUs with neighboring cities will enable us to collaboratively monitor and treat potential mosquito breeding sites and outbreaks. In turn, this will demonstrate the benefits and value of having a County-wide mosquito control program. Working with the Alachua County government, we hope to establish a County mosquito control program, enabling faster response times to issues, decreased likelihood of disease outbreaks, and cost-sharing. In addition, GMC hopes to develop training materials for current and new employees, both locally and within the county. Having SOPs for the entire County will increase the effectiveness of treatments, reduce the risks of insecticide resistance, and enable effective communication and education throughout the area.

Collaboration

Collaboration

Collaboration with community stakeholders is a key component to increasing the implementation and effectiveness of local vector control activities. Describe your existing partnerships with key stakeholders and/or stakeholders with whom you could partner with to achieve the activities described in your statement of work, as appropriate.

Key stakeholders may include nearby mosquito control districts, state health departments, other municipal departments (e.g. public works, parks and recreation, sanitation) agricultural entities, and universities.

Please use the space below to describe your existing partnerships and/or indicate local stakeholders with whom you could partner (250 word limit): *

GMC has been collaborating extensively with a number of stakeholders, including the Florida Department of Agriculture and Consumer Services (FDACS), the lead State agency for mosquito control, the Florida Department of Health (FDOH), and the Florida Department of Environment Protection (FDEP). By working with FDACS, GMC participates in State-wide development, collection, and analysis of state-specific data on mosquito-borne diseases. In collaboration with the FDOH, GMC receives timely mosquito-borne disease surveillance reports, tracking human and animal cases locally, and can take appropriate prevention and control methods promptly to minimize the risk of human and animal infection. Through working with the FDEP, GMC was funded by the State's Waste Tire Management Program to clean up illegal waste tire piles, which can breed mosquitoes. Coordination with federal agencies such as the Federal Emergency Management Agency (FEMA) and the Centers for Disease Control and Prevention (CDC) aids in hurricane relief response times to increases in mosquito populations. GMC also collaborates with the University of Florida, the USDA Center for Medical, Agricultural and Veterinary Entomology, and the US Navy Entomology Center of Excellence to conduct a number of research projects. GMC hopes to collaborate with the Alachua County government to establish a County-wide mosquito control program in order to combine resources and effectively control possible vectors in the area.

Budget Request

Budget Request

Provide a budget narrative for your scope of work. Estimates are acceptable

Categories may include:

- Personnel
- Fringe Benefits (x%)
- Travel
- Equipment
- Supplies
- Other
- Indirect (x%)

Provide a brief budget narrative below (250 word limit): *

GMC requests a total of \$18,664 including \$8,664 for personnel (\$8,000 for OPS technician+\$664.0 for fringe benefits), \$5,000 for travel (1 person attends American Mosquito Control Association and Florida Mosquito Control Association annual meetings and 6 persons attend FMCA Dodd Short Courses training), 5,000 for equipment and supplies (10 CDC light traps, resistance testing supplies). There will be no indirect cost.

Letter of Support

If you are not applying as an employee of a local health department, you must include a letter of support from your local health authority indicating how the local health department and your vector control program will collaborate to improve jurisdictional capacity to prevent and respond to vector-borne threats. Your local health authority may be a health commissioner, a departmental director of environmental health, or another representative with appropriate decision-making authority. :

- [City of Gainesville NACCHO Grant LOS 12-20-18.pdf](#)

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